

Serial No. 10/777,499
Amendment and Response to
Office Action Mailed June 26, 2007

REMARKS

In the Office Action mailed June 26, 2007, the Examiner rejected claims 1-24. By the present Response, Applicant has amended claims 1, 4, 8, 13, and 21, while canceling claims 2-3, 11, and 23. These amendments do not add any new matter. Upon entry of these amendments, claims 1, 4-10, 12-22, and 24 remain pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, Applicant respectfully requests reconsideration and allowance of all pending claims.

Claim Rejections Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 2, 5-8, 10, 12-14, 19, 21, 22, and 24 under 35 U.S.C. § 102(b) as being anticipated by Amerga et al., U.S. Publication No. 2003/0013457 (hereafter referred to as "the Amerga reference"). As set forth above, independent claims 1, 8, 13, and 21 have been amended to include subject matter previously contained in canceled claims 3, 11, and 23. Because of the subject matter amended into claims 1, 8, 13, and 21, Applicant respectfully asserts that the section 102 rejection is moot in view of the amendments and, therefore, respectfully requests withdrawal of the section 102 rejection. Amended claims 1, 8, 13 and 21 will be addressed in detail below.

Claim Rejections Under 35 U.S.C. § 103(a)

In the Office Action, the Examiner rejected claims 9, 15-18, and 20 under 35 U.S.C. § 103(a) as being unpatentable over the Amerga reference. The Examiner further rejected claims 3, 4, 11, and 23 under 35 U.S.C. § 103(a) as being unpatentable over the Amerga reference in view of Machida, U.S. Patent No. 5,603,023 (hereafter referred to as "the Machida reference"). Applicant respectfully traverses these rejections.

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The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580 (C.C.P.A. 1974). However, it is not enough to show that all the elements exist in the prior art since a claimed invention composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007).

It is important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* Specifically, there must be some articulated reasoning with a rational underpinning to support a conclusion of obviousness; a conclusory statement will not suffice. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Indeed, the factual inquiry determining whether to combine references must be thorough and searching, and it must be based on *objective evidence of record*. *In re Lee*, 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002). Therefore, while the obviousness analysis is no longer confined to a rigid application of the teaching, suggestion, or motivation test, the Examiner must still establish, based on objective evidence of record, reasons supporting a conclusion as to the combinability of the references in making an obviousness rejection.

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Independent claims 1, 8, 13 and 21

As mentioned above, Applicant has amended independent claims 1, 8, 13, and 21 to incorporate subject matter from canceled claims 3, 11, and 23. Specifically, claims 1, 13, and 21, as amended, recite sorting a plurality of signal energies "according to an "n" out of "N" heapsort algorithm." Amended claim 8 recites ordering a plurality of signal energies "according to an "n" out of "N" heapsort software routine." In rejecting the subject matter amended into the independent claims, the Examiner stated:

Consider claim 3. Amerga lacks a teaching of the device, as set forth in claim 2, wherein the heapsort algorithm comprises an "n" out of "N" heapsort...Machida teaches an n out of N heapsort (Machida, see for example columns 2-3).

[...]

Consider claim 11. Amerga lacks a teaching of the base station, as set forth in claim 10, wherein the reverse link searcher comprises a "n" out of "N" heapsort algorithm that is a software routine...Machida teaches an n out of N heapsort (Machida, see for example columns 2-3).

[...]

Consider claim 23. Amerga lacks a teaching of the method, as set forth in claim 21, wherein sorting the plurality of signal energies into the one of the plurality of candidate signal lists comprises utilizing an "n" out of "N" heapsort algorithm... Machida teaches an n out of N heapsort (Machida, see for example columns 2-3).

Office Action, pages 8, 9, and 10

Applicant agrees with the Examiner's assertion that the Amerga reference fails to teach sorting a plurality of signal energies according to an "n" out of "N" heapsort algorithm (included in amended claims 1, 13 and 21), and ordering a plurality of signal energies

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according to an "n" out of "N" heapsort software routine (included in amended claim 8).

Contrary to the Examiner's assertion, however, Machida fails to overcome the admitted deficiencies of Amerga.

The Machida reference discloses a heapsort processor capable of generating heap data at high speed. *See* Col. 4: 1-11. The Machida reference also pictorially discloses a heapsort algorithm, whereby a group of values is sorted from a random order, Fig. 1, into a ranked order, Fig. 9. However, the Machida reference sorts *all* of the values in the grouping into a ranked order. *See* Fig. 9. This concept is highlighted in the portion of the Machida reference cited by the Examiner, "by heapsort, n data are arranged in the ascending order." *See* Col. 3: 50-52. Thus, each value in the entire data set is sequentially aligned according to value and the Machida reference simply teaches sorting an *entire set* of data and outputting all of the sorted data. *Id.* One of ordinary skill in the art, however, would not consider storing an entire set of data and outputting all of the sorted data to be the same as an "n" out of "N" heapsort, as recited in amended independent claims 1, 8, 13, and 21. Indeed, this is what an "n" out of "N" heapsort avoids. Thus, Applicant is unaware of, and the Examiner has not cited to, any portion in the Machida reference, or any other reference, which can reasonably be considered an "n" out of "N" heapsort. Applicant, therefore respectfully asserts that the Machida reference fails to overcome the deficiencies of the Amerga reference with respect to independent claims 1, 8, 13, and 21.

Consequently, the Amerga reference and the Machida reference, taken alone or in hypothetical combination, fails to disclose all the limitations of amended independent claims 1, 8, 13, and 21 and cannot support a *prima facie* case for obviousness under Section 103.

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Accordingly, Applicant respectfully requests withdrawal of the rejection under Section 103 and allowance of amended claims 1, 8, 13, and 21, as well as all claims depending thereon.

Request Evidence to Support Official Notice

The Examiner has taken Official Notice of facts outside of the record that the Examiner apparently believes are capable of demonstration as being "well-known" in the art in rejecting claims 9, 15-18, and 20. Therefore, in accordance with M.P.E.P. § 2144.03, the Applicant hereby seasonably traverses and challenges the Examiner's use of Official Notice. Furthermore, Applicant emphasizes that the "well-known" facts asserted by the Examiner are not of a "notorious character" and are clearly not "capable of such instant and unquestionable demonstration as to defy dispute." *See* M.P.E.P. § 2144.03. Specifically, Applicant respectfully requests that the Examiner produce evidence in support of the Examiner's position as soon as practicable during prosecution and that the Examiner add a reference to the rejection in the next Official Action. If the Examiner finds such a reference and applies it in combination with the presently cited references, Applicant further requests that the Examiner specifically identify the portion of the newly cited reference that discloses the allegedly "well known" elements of the instant claim, as discussed above, or withdraw the rejection. If the Examiner relies only on personal knowledge, then Applicant respectfully stresses that the Examiner must provide an affidavit or declaration in support of such personal knowledge. *See id.*

Even assuming the statements with regard to Official Notice made by the Examiner were proved by outside evidence, they fail to teach or show sorting, or ordering, a plurality of signal energies according to an "n" out of "N" heapsort algorithm. Consequently, the Official

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Notice and the Amerga reference, taken alone or in hypothetical combination, fail to teach or suggest all the elements of amended independent claims 8 and 13. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 9, 15-18, and 20 based on their respective dependency from claims 8 and 13.

Conclusion

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: September 26, 2007



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